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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,872	06/05/2001	Atul Puri	2001-0161A	6019

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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,872

Applicant(s)

PURI ET AL.

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/23/06 have been fully read and considered but they are not persuasive.

Regarding line 16 on page 8 to line 3 on page 9 of applicant's remarks about claim 1, applicant asserts that Lee does not disclose routing or suggesting each video content portion to one of a plurality of encoders based on a model associated with each video content portion. The examiner respectfully disagrees. As previously stated in the previous Office Action and in this current action, Lee's column 42, lines 62-65 discloses encoding video portions associated with the generic encoder encoder model with a generic encoder. In column 43, lines 10-15, Lee discloses the multiplexer 1510 is used to multiplex and encode video portions from plural video object encoders 1504-1508, thus, one can clearly observe that each object or video content portion that has a model associated with each video object, from a plurality of objects, is coded by each individual object coder 1504-1508 for coding, thus, each video content portion is routed to a plurality of encoders. Lee does not specifically disclose the predefined encoder model selected from a plurality of predefined encoder models, and each encoder being associated with one predefined model of the plurality of predefined encoder models. However, in column 13, lines 49-65, Lennon states the regions can be individually coded in that there are model parameters for each separately coded region. Thus, Lennon teaches the predefined model selected from a plurality of predefined encoder models, and each encoder being associated with one predefined encoder model of the

plurality of predefined encoder models. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Lee and Lennon, as a whole, for efficiently, precisely encode spatial and temporal video data while maintaining high image quality, as disclosed in Lennon's column 3, lines 50-57. Dependent claims 2-8 are rejected for similar reasons as claim 1.

Regarding lines 10-11 and 16-22 on page 9 of applicant's remarks, applicant argues that claim 9 is not disclosed in the combination of Lee and Lennon in similar fashion as claim 1. The examiner respectfully disagrees. Claim 9 is disclosed for similar reasons as discussed above and in the rejection below. See the above paragraphs and the rejection below for elaboration. Dependent claims 10-12 are rejected for similar reasons as claim 9.

Regarding line 25 on page 9 to line 2 on page 10 of applicant's remarks, applicant contends that claim 13 is not disclosed for similar reasons as claim 1 and 9. The examiner respectfully disagrees. Claim 13 is disclosed for similar reasons as discussed above and in the rejection below for claim 1. See the above paragraphs and the rejection below for elaboration. Dependent claim 14 is rejected for similar reasons as claim 13.

Regarding lines 8-11 on page 10 of applicant's remarks, applicant states that claim 15 is not disclosed for similar reasons as claim 1. The examiner respectfully disagrees. Claim 15 is disclosed for similar reasons as discussed above and in the rejection below for claim 1. See the above paragraphs and the rejection below for elaboration. Dependent claims 16-17 are rejected for similar reasons as claim 15.

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Regarding lines 13-15 on page 10 of applicant's remarks, applicant asserts that claim 18 is not disclosed for similar reasons as claim 15. The examiner respectfully disagrees. Claim 18 is disclosed for similar reasons as discussed above and in the rejection below for claim 1. See the above paragraphs and the rejection below for elaboration. Dependent claims 19-20 are rejected for similar reasons as claim 18.

Regarding lines 20-21 on page 10 of applicant's remarks, applicant contends that claim 21 is not disclosed for similar reasons as claim 1. The examiner respectfully disagrees. Claim 21 is disclosed for similar reasons as discussed above and in the rejection below for claim 1. See the above paragraphs and the rejection below for elaboration. Dependent claim 22 is rejected for similar reasons as claim 18.

Regarding lines 1-6 on page 11 of applicant's remarks, applicant argues that claims 27-29 are not disclosed for similar reasons as claims 1, 18 and 21. The examiner respectfully disagrees. Claims 27-29 are disclosed for similar reasons as discussed above and in the rejection below for claim 1. See the above paragraphs and the rejection below for elaboration.

Thus, the rejection of the claims is maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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1. Claims 1-22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (5,748,789) in view of Lennon (6,516,090).

Regarding claims 1, 9, 13, 15, 18 and 21, Lee discloses a method of encoding video content, the method comprising:

extracting video portions from video content (fig.33 and col.42, ln.34-38; note video object information is extracted and segmented from the input video sequence; also, note fig.35 discloses extracting multiple video objects 1540, 1542 and 1544b);

identifying video subsegments and regions of interest within the video portions (fig.33, element 1502, col.42, ln.34-46, and fig.35, note segments and subsegments of the regions of interest are identified);

assigning a predefined encoder model to each video portion according to a characteristic of the video portion, the predefined encoder model being chosen from a plurality of predefined models or a generic model (col.42, ln.47-61; note each video object has an arbitrary shape, and that each video object is predefined according to its shape, thus, each video object or video portion is assigned a predefined encoder model by a mask of alpha values or a binary mask);

encoding video portions associated with the generic encoder model with a generic encoder (fig.33 and col.42, ln.62-65; note object coders 1504-1508 encode video portions associated with the generic model); and

encoding video portions associated with the plurality of predefined encoder models with an encoder chosen from a plurality of encoders, each of the plurality of encoders being associated with one of the plurality of predefined models (fig.33 and

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col.43, ln.10-15; note the multiplexer 1510 is used to multiplex and encode video portions from plural video object encoders 1504-1508).

Lee does not specifically disclose the predefined encoder model selected from a plurality of predefined encoder models, and each encoder being associated with one predefined model of the plurality of predefined models. However, Lennon teaches the predefined model selected from a plurality of predefined models, and each encoder being associated with one predefined model of the plurality of predefined encoder models (col.13, ln.49-65; Lennon discloses that the regions can be separately coded where there are model parameters for each separately coded region). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Lee and Lennon, as a whole, for efficiently, precisely encode spatial and temporal video data while maintaining high image quality (col.3, ln.50-57).

Note claims 5-8, 14, 16, 19, 20 and 22 have similar corresponding elements.

Regarding claims 2-4, 10, 12 and 17, Lee discloses further comprising:
producing descriptors associated with the video portions of the video content (col.51, ln.4-59; note there are plural flags that can aid the determination of the video portions of the video content); and

producing descriptors associated with the video subsegments and regions of interest (col.51, ln.4-59; note there are plural flags that can aid the determination of the video subsegments of the video content).

Regarding claim 11, Lee discloses further comprising:

encoding the descriptors associated with the video portions, video subsegments

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and regions of interest (fig.33, note the descriptors are encoded along with the video object information by encoders 1504-1508).

Regarding claims 27-29, Lee discloses a coded bitstream having portions of the bitstream encoded using different encoders according to encoder models associated with a subject matter of each portion of the bitstream, the coded bitstream encoded according to the method of claims 1, 18 and 21, respectively (fig.33 and col.42, ln.62-65; note different video object coders 1504-1508 encode video portions associated with the generic model; col.43, ln.10-15; note the multiplexer 1510 is used to multiplex and encode video portions from plural different video object encoders 1504-1508).

Lee does not specifically disclose the predefined model selected from a plurality of predefined models, and each encoder being associated with one predefined model of the plurality of predefined models. However, Lennon teaches the predefined model selected from a plurality of predefined models, and each encoder being associated with one predefined model of the plurality of predefined models (col.13, ln.49-65; Lennon discloses that the regions can be separately coded where there are model parameters for each separately coded region). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Lee and Lennon, as a whole, for efficiently, precisely encode spatial and temporal video data while maintaining high image quality (col.3, ln.50-57).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Wong
Primary Examiner
Art Unit 2621

AW
5/30/06